Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method of diagnosing decreased vascular function or increased cardiovascular risk in a subject, comprising

assaying the number of endothelial progenitor cells in a blood sample from the subject, wherein the subject does not have symptomatic cardiovascular disease, and wherein a decrease in the number of endothelial progenitor cells in the sample as compared to a control indicates decreased vascular function.

Claim 2 (original): The method of claim 1, wherein assaying the number of endothelial progenitor cells comprises

isolating the buffy coat from a blood sample of the subject;

culturing the buffy coat on a solid support coated with a first substrate;

isolating the non-adherent cells;

culturing the non-adherent cells on a solid support coated with a second substrate;

counting the number of colonies on the solid support.

Claim 3 (original): The method of claim 2, wherein a lower number of colonies on the solid support as compared to a control indicates decreased vascular function.

Claim 4 (original): The method of claim 1, wherein assaying the number of endothelial progenitor cells comprises

determining the number of $VEGFR^{2+}CD31^{hi}$ cells in the sample.

Claim 5 (original): The method of claim 1, wherein the control is a blood sample from a subject that does not have atherosclerosis.

Claim 6 (original): The method of claim 1, wherein the control is a standard value.

Claim 7 (original): The method of claim 2, wherein the first substrate comprises fibronectin.

Claim 8 (original): The method of claim 2, wherein the first and the second substrate comprise fibronectin.

Claim 9 (currently amended): A method of diagnosing increased vascular function in a subject, comprising

assaying the number of endothelial progenitor cells in a blood sample from the subject, wherein an increase in the number of endothelial progenitor cells in the sample as compared to a control indicates ~~decreased~~ increased vascular function.

Claim 10 (original): The method of claim 9, wherein the subject has been treated with a cholesterol-lowering agent.

Claim 11 (original): The method of claim 10, wherein the control is a blood sample from the subject prior to treatment with the cholesterol-lowering agent.

Claim 12 (original): The method of claim 9, wherein assaying the number of endothelial progenitor cells comprises

isolating the buffy coat from a blood sample of the subject;

culturing the buffy coat on a solid support coated with a first substrate;

isolating the non-adherent cells;

culturing the non-adherent cells on a solid support coated with a second substrate;

counting the number of colonies on the solid support.

Claim 13 (original): The method of claim 12, wherein a higher number of colonies on the solid support as compared to a control indicates increased vascular function.

Claim 14 (original): The method of claim 12, wherein the first substrate comprises fibronectin.

Claim 15 (original): The method of claim 12, wherein the first substrate and the second substrate comprises fibronectin.

Claim 16 (original): The method of claim 9, wherein assaying the number of endothelial progenitor cells comprises

determining the number of $VEGFR^{2+}CD31^{hi}$ cells in the sample.

Claim 17 (original): A method of treating a subject with decreased vascular function, comprising,

administering to the subject a therapeutically effective amount of endothelial progenitor cells, thereby increasing vascular function in the subject.

Claim 18 (original): The method of claim 17, wherein the subject has atherosclerosis.

Claim 19 (original): The method of claim 17, wherein the endothelial progenitor cells are $VEGFR^{2+}CD31^{hi}$ cells.

Claim 20 (currently amended): A method for screening for an agent that affects vascular function or is of use in treating a cardiovascular disease, comprising

administering a therapeutically effective amount of the agent to a subject, and

assessing the number of endothelial progenitor cells in a sample from the subject;

wherein an increased number of endothelial progenitor cells in the sample as compared to a control indicates that the agent affects vascular function or is of use in treating a cardiovascular disease.

Claim 21 (original): The method of claim 20, wherein the subject is a non-human animal.

Claim 22 (original): The method of claim 22, wherein the subject is a human.

Claim 23 (original): The method of claim 20, wherein the agent is a cholesterol lowering agent.

Claim 25 (original): The method of claim 20, wherein the control is the number of circulating endothelial cell in sample from a subject not administered the agent.

Claim 25 (original) The method of claim 20, wherein the sample is a blood sample.

Claim 26 (original): The method of claim 20, wherein the sample is a buffy coat sample.

Claim 27 (original): The method of claim 20, wherein the endothelial progenitor cells are circulating endothelial progenitor cells.

Claim 28 (original): The method of claim 20, wherein assaying the number of endothelial progenitor cells comprises

isolating the buffy coat from a blood sample of the subject;

culturing the buffy coat on a solid support coated with a first substrate;

isolating the non-adherent cells;

culturing the non-adherent cells on a solid support coated with a second substrate;

enumerating the number of colonies on the solid support.

Claim 29 (original): The method of claim 20, wherein assaying the number of endothelial progenitor cells comprises

determining the number of $VEGFR^{2+}CD31^{hi}$ cells in the sample.

Claims 30-47 (canceled).

Claim 28 (original): A method of diagnosing increased cardiovascular risk or decreased vascular function in a subject, comprising

assaying a number of senescent endothelial progenitor cells in a blood sample from the subject,

wherein an increase in the number of senescent endothelial progenitor cells in the sample as compared to a control indicates increased cardiovascular risk or decreased vascular function.

Claim 49 (original): The method of claim 48, wherein the control is a standard value.

Claim 50 (original): The method of claim 48, wherein the control is a number of senescent endothelial progenitor cells in a blood sample from a subject known not to be affected by a disease or disorder.

Claim 51 (original): A method for screening for an agent of use in treating a cardiovascular disease, comprising

administering a therapeutically effective amount of the agent to a subject, and

assessing the number of senescent endothelial progenitor cells in a sample from the subject;

wherein a decreased number of senescent endothelial progenitor cells in the sample as compared to a control indicates that the agent is of use in treating the cardiovascular disease.

Claim 52 (original): The method of claim 51, wherein the control is a standard value.

Claim 53 (original): The method of claim 51, wherein the control is a number of senescent endothelial progenitor cells in a blood sample from a subject known to be affected by a disease or disorder.